

Amendments to the Claims

Amended
SPE
7/13/04

1-9 ~~(withdrawn)~~ CANCELED

10. (original) In a process for progressively reducing a thickness of a thin-film layer on a surface of a substrate, a method for detecting a process endpoint representing a minimum desired thickness of the thin-film layer, the method comprising:

- (a) directing a probe light onto a region of a surface of the thin-film layer to produce a signal light propagating from the thin-film layer;
- (b) detecting the signal light;
- (c) measuring a spectral characteristic of the signal light from the detected signal light to produce a spectral-characteristic signal;
- (d) calculating a cross-correlation function of the spectral-characteristic signal with a predetermined reference spectral-characteristic signal, the cross-correlation function exhibiting a change with a corresponding change in the thickness of the thin-film layer; and
- (e) from the cross-correlation function, determining the process endpoint.

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11. ~~(withdrawn)~~ CANCELED

12. (canceled)

13. (currently amended) The method of claim ~~1223~~, wherein the parameter is selected from the group consisting of a difference between a largest local maximum of the signal waveform and a smallest local minimum of the signal waveform.

14. (currently amended) The method of claim ~~1223~~, wherein the parameter is the smallest local minimum of the signal waveform.

15. (currently amended) The method of claim ~~1223~~, wherein the parameter is a quotient of the smallest local minimum of the signal waveform to the largest local maximum of the signal waveform.

25. (original) The method of claim 24, including the step of varying a size of the aperture so as to cause the aperture to pass only the zeroth order of signal light.

26. (original) The method of claim 23, wherein step (b) is performed by providing a two-dimensionally distributed measurement of a spot pattern of the signal light while blocking the higher orders of signal light.

27-40 (~~withdrawn~~) CANCELED

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